

[00151] ABSTRACT

[00152] A decoder and method for using a new picture or frame type is provided. This type is referred to an SP-picture. The temporal redundancies are not exploited in I-frames, compression efficiency of I-frame coding is significantly lower than the predictive coding. A method allows use of motion compensated predictive coding to exploit temporal redundancy in the sequence while still allowing perfect reconstruction of the frame using different reference frames. Methods using this new picture type provide for error resilience/recovery, bandwidth scalability, bitstream switching, processing scalability, random access and other functions.

[00153] The SP-type picture provides for, among other functions, switching between different bitstreams, random access, fast forward and fast error-recovery by replacing I-pictures to increase the coding efficiency. As will be demonstrated, SP-pictures have the property that identical SP-frames may be obtained even when they are predicted using different reference frames.